

Substitute Specification
(Clean Copy)



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TRACK FOR MODEL CARS

Field of the Invention:

This invention relates to a race track for toy model cars. More specifically, this invention relates to a drag-race style race track in which toy cars are propelled by pressurized air.

Background of the Invention:

The automobile racing game has become a favorite in both arcades and home game systems. Since its inception, it has taken on many forms. In some instances, a car race is simulated on a display screen. In others, the race cars are mechanically driven by motors. Still others are electronically operated. Continued consumer demand for the automobile racing game requires the frequent development of fresh, new approaches.

Object of the Invention:

It is an object of the present invention to create a fun, innovative new form of the classic automobile racing game. The embodiments of the present invention offer a setting in which toy cars

are pitted against each other in drag race fashion and are operated using controls which simulate those found in a real race car.

Summary of the Invention:

An embodiment of the invention could be a two-lane race track for model cars. The lanes herein may be referred to as the "Left Lane" and the "Right Lane." Each lane could be equipped with a corresponding driver's seat, a gearshift joystick, a clutch, and a series of pressurized air conduits.

The track of one embodiment of the invention could be made of plastic strips which are lined with piping on either side to prevent the car from exiting the track prematurely. The track of one embodiment could be designed to accommodate a "Drag-Race" type format in that the portion of the track in which the race takes place would be straight. Beyond that point, the track could curve around, reversing the course of each car so that the car will return to its operator. The two U-shaped lanes could be arranged side by side so that the straight portions of both lanes are preferably parallel to each other. The racing portion of each lane is preferably positioned on the inside

of the platform, while the return portion of each lane follows along the outsides.

The cars of one embodiment of the invention are preferably propelled by pressurized air. This air could travel through conduits. In one embodiment, the air could travel through copper tubes. Each lane could be equipped with its own system of air conduits. The air could be administered to the cars in bursts by a series of air jets. In one embodiment of the invention, the air jets could be positioned at four preferably equidistant points above the track. They are preferably held in place by Y-shaped supports.

The bursts of pressurized air are preferably activated by the operator using the gearshift joystick. Fashioned after a real automobile gearshift, the gearshift joystick could give access to four "gears." Each gear could be a trigger for the bursts of air. In one embodiment of the invention, the gear shift preferably has four such gears. At the precise moment each car passes under the pressurized air jets, the car's respective operator depresses the clutch with his foot and shifts to the gear corresponding to that air jet. If timed properly, the air hopefully accelerates the car in the direction of the

finish line. The object of the game, then, is to time the release of the air so that the maximum force possible is exerted on the car.

In one embodiment of the invention, a pole with signal lights is preferably fixed on the end opposite the players. These lights are modeled after the starting lights of a real drag race. They indicate when the race is to begin. A timer display could be fixed to the center of one embodiment of the invention. This timer display could indicate the time taken by each car to finish the race. By this information, the winner of the race is determined.

In one embodiment of the invention, at the start of the race, two players could be seated in the bucket seats, which are preferably positioned on opposite sides of the game platform. Each player places his car at the starting point in his respective lane, below the first air jet. When the starting light indicates to go, the drivers depress their clutches and shift to "first gear," activating the first bursts of air. When the cars pass under the second air jets, their operators shift to "Second gear" and release the second burst of compressed air, and so forth, until all jets have been activated, and subsequently, the cars finish the race. The center timer then displays

the amount of time taken by each car to complete the race. The cars coast around the remainder of the track, completing a U-Turn and returning to their respective drivers.

The above-discussed embodiments of the present invention will be described further hereinbelow. When the word "invention" is used in this specification, the word "invention" includes "inventions", that is the plural of "invention". By stating "invention", the Applicant does not in any way admit that the present application does not include more than one patentably and non-obviously distinct invention, and maintains that this application may include more than one patentably and non-obviously distinct invention. The Applicant hereby asserts that the disclosure of this application may include more than one invention, and, in the event that there is more than one invention, that these inventions may be patentable and non-obvious one with respect to the other.

Brief Description of the Drawings:

The attached drawings illustrate at least one embodiment of the invention described above:

Figure 1 shows a view of the track;

Figure 2 shows a side view of the start of the track and one driver's seat and gearshift joystick;

Figure 3 illustrates a burst of air from an air jet propelling a car as it moves along the track;

Figure 4 is a diagram of the gearshift joystick;

Figure 5 is a diagram of the network of compressed air conduits;

Figures 6A-6G illustrate the materials used to build the embodiment shown in Figures 1-5;

Figure 7 is a diagram of the operation of the embodiment.

Description of the Preferred Embodiment of the Invention:

Figure 1 shows a view of the track as seen from the perspective of a driver. At the far end of the track opposite the players, the light pole 26 and the U-turn curves 6, 8 are shown. During the game, the cars race by traveling along the inner two sections 2, 4 of the track. After passing the finish line 28, the cars coast back along the U-turns 6, 8, and return to the drivers by way of the outer sections 10, 12 of the track. In the foreground, one can see the game timer 24. The track of one embodiment is constructed out of smooth plastic

strips 50 lined with plastic piping 52 to guide the cars.

Figure 2 shows a side view of the start line of the track and the right driver's seat 34 and gearshift joystick 42. In one embodiment, the driver's seat is modeled after the bucket seat found in a real race car. Two cars 30 are positioned at the start 20, 22 of the inner sections 2, 4 of the track, and several more cars 30 are shown sitting beside the inner section 4 of the track. The two initial air jets 16, 18 are shown fixed to the track. Also visible from this angle are the outer sections, 10, 12 of the track.

Figure 3 illustrates a burst of air from an air jet 14 propelling a car 30 as it moves along the track 50, 52. The bursts of air are controlled by the operator using the clutch 62 and the gearshift joystick 42. The pressurized air travels to the air jets 14 through air conduits 48. The car 30 is guided on the smooth plastic 50 of the track by the plastic pipes 52.

Figure 4 is a diagram of the gearshift joystick 42. The gears are arranged in the shape of an "H." Shifting to each gear activates an air valve 54, releasing a burst of pressurized air into the air conduits 48 and out of the corresponding air jet.

Figure 5 is a diagram of the network of compressed air conduits 48. The principal air conduit delivers air from the air compressor 46 to the system. The air regulator 44 controls the flow of air. The air is released by the gear shifts 40, 42 and travels along air conduits 48 until it is emitted in a burst from an air jet 14, 16, 18.

Figure 6A illustrates the some of the materials used to build the embodiment shown in Figures 1-23. Air conduits 48 are shown connected to the air compressor 70. Air flows from the air compressor 70, through the air conduits 48.

Figure 6B illustrates the some of the materials used to build the embodiment shown in Figures 1-23. The air regulator 44 is shown. Air flows from the air compressor 70, through the air conduits 48, and through the air regulator 44.

Figure 6C illustrates the some of the materials used to build the embodiment shown in Figures 1-23. Specifically, the air conduits 48, which are made of copper, are shown. Air flows from the air compressor 70, through the copper air conduits 48 toward the air regulator 44 and the air jets 14, 16, 18.

Figure 6D illustrates the some of the materials used to build the

embodiment shown in Figures 1-23. Specifically, the wooden platform 60 is shown. Any number of measurements are possible for the wooden platform 60. The dimensions of the wooden platform 60 are therefore not limited to the measurements shown in Figure 24D, 1'X12'X10'.

Figure 6E illustrates the some of the materials used to build the embodiment shown in Figures 1-23. Specifically, the smooth plastic strips 50 of the track are shown. Any number of measurements are possible for the smooth plastic strips 50 of the track. The dimensions of the smooth plastic strips 50 are therefore not limited to the measurements shown in Figure 24E, 2"X10'.

Figure 6F illustrates the some of the materials used to build the embodiment shown in Figures 1-23. Specifically, the gear shifts 40, 42 are shown. The gears are arranged in the shape of an "H." Shifting to each gear activates an air valve 54, releasing a burst of pressurized air into the air conduits 48 and out of the corresponding air jet 14, 16, 18.

Figure 6G illustrates the some of the materials used to build the embodiment shown in Figures 1-23. Specifically, the connecting base

of the exit for the compressed air is shown. These are Y-shaped supports for the air jets 14, 16, 18 which are mounted to the track.

Figure 7 is a diagram of the operation of one embodiment. At the start of the game, the signal lights 26 and timer 24 are activated by the control apparatus 56. When the clutch 36, 38 is depressed and the gear shift 40, 42 utilized, a valve 54 is opened, releasing air from the air compressor 46 via the air regulator 44, through the air conduits 48, and out of an air jet 14 on the track. When the cars have passed through the length of the racing portion of the track 2, 4, a sensor 58 is triggered to inform the timer 24 that the race is finished.

Examples of automotive clutch pedals which may be utilized in accordance with one or more embodiments of the present invention may be found in the following U.S. Patents: No. 4,301,908 entitled "Antivibration Device for a Clutch Pedal" issued on November 24, 1981 to Fukuda et al.; No. US D437,271S entitled "Mustang Car Brake And/Or Clutch Pedal" issued on February 6, 2001 to Saleen; No. 5,901,614 entitled "Adjustable Clutch Pedal System" issued on May 11, 1999 to Ewing; No. 4,497,217 entitled "Clutch Pedal Operation

Through a Fore and Aft Shaft in a Fire Wall of a Vehicle" issued on February 5, 1985 to Hansen.

Examples of automotive gearshifts which may be utilized in accordance with one or more embodiments of the present invention may be found in the following U.S. Patents: No. 6,122,983 entitled "Shift Device for a Manual Transmission" issued on September 26, 2000 to Hoffman; No. 4,633,728 entitled "Gear Selector Control for Manual Transmission" issued on January 6, 1987 to May; No. 4,807,489 entitled "Gear Shift Device" issued on February 28, 1989 to Schreiner et al.; No. 5,067,362 entitled "Control Device" issued on November 26, 1991 to Holdenried; No. 5,979,262 entitled "Gearshift Device for a Motor Vehicle Manual Transmission" issued on November 9, 1999 to Doelling et al.; No. 5,950,493 entitled "Gear Shift Tower Assembly" issued on September 14, 1999 to Pritchard.

An examples of a motor race signaling system which may be utilized in accordance with one or more embodiments of the present invention may be found in the following U.S. Patent: No. US 6,380,863 B1 entitled "Signal Flag and Signaling System for Motor Racing" issued on April 30, 2002 to Swoboda et al.

Examples of toy car tracks which may be utilized in accordance with one or more embodiments of the present invention may be found in the following U.S. Patents: No. 5,038,685 entitled "Track Apparatus for a Toy Racing Car" issued on August 13, 1991 to Yoneda et al.; No. 5,899,789 entitled "Toy Car Track Assembly With Propelling Mechanism and Collision Course" issued on May 4, 1999 to Rehkemper et al.; No. 5,924,927 entitled "Racing Game Apparatus" issued on July 20, 1999 to Matsuura et al.; No. 5,501,455 entitled "Racing Game Machine with Varying Track Levels" issued on March 26, 1996 to Hirata et al.; No. US 6,227,932 B1 entitled "Toy Racing Car Track System" issued on May 8, 2001 to Ngai.

Examples of toy cars which may be utilized in accordance with one or more embodiments of the present invention may be found in the following U.S. Patents: No. Des.320,821 entitled "Toy Racing Car" issued on October 15, 1991 to Mochizuki; No. Des.359,082 entitled "Toy Race Car" issued on June 6, 1995 to Aker et al.; No. Des.379,385 entitled "Toy Car" issued on May 20, 1997 to Yeh; No. Des.383,808 entitled "Toy Race Car" issued on September 16, 1997 to Choi; No. Des.428,076 entitled "Toy Car" issued on July 11, 2000 to

Wise et al.

Examples of air jets which may be utilized in accordance with one or more embodiments of the present invention may be found in the following U.S. Patents: No. 5,634,636 entitled "Flexible Object Handling System Using Feedback Controlled Air Jets," issued on June 3, 1997 to Jackson et al.; No. 6,000,328 entitled "Gloss Control System Using Air Jets" issued on December 14, 1999 to Mareiniss; No. US 6,402,436 B1 entitled "Method and Device for Conveying Planar Ribbon of Crimped Fiber Using Air Jets" issued on June 11, 2002 to Murphy; No. 5,180,119 entitled "Vertical Lift System Through Tangential Blowing of Air Jets Channelled Over the Top of Rotating Cylinders" issued on January 19, 1993 to Picard; No. 4,305,536 entitled "Air Guides for Tape Transports Having Air Jets at Tangent Points" issued on December 15, 1981 to Burdorf et al.

Examples of game control apparatuses which may be utilized in accordance with one or more embodiments of the present invention may be found in the following U.S. Patents: No. 4,072,310 entitled "Control Apparatus for a Card Game Simulator" issued on February 7, 1978 to Beam; No. 4,964,638 entitled "Control Apparatus for Game

Machines" issued on October 23, 1990 to ishida; No. 5,238,250
entitled "Computer Game Control Apparatus" issued on August 24,
1993 to Leung et al.;

Examples of timer displays which may be utilized in accordance
with one or more embodiments of the present invention may be found
in the following U.S. Patents: No. Des.390,799 entitled "Timer Display"
issued on February 17, 1998 to Uptegraph; No. Des.304,960 entitled
"Display Board with Timer" issued on December 5, 1989 to Denton;
No. 4,318,181 entitled "Timer Display Apparatus" issued on March 2,
1982 to Kawakami et al.

Examples of automobile bucket seats which may be utilized in
accordance with one or more embodiments of the present invention
may be found in the following U.S. Patents: No. Des.422,154 entitled
"Bucket Seat" issued on April 4, 2000 to Lieberman et al.; No.
Des.279,437 entitled "Bucket Seat" issued on July 2, 1985 to Downey,
Jr.; No. 6,053,575 entitled "Motor Vehicle Seat with a Back Rest and
a Bucket Seat" issued on April 25, 2000 to Bauer et al.